

WHAT IS CLAIMED IS:

1. A lid for use in connection with a container or container cap having an inwardly extending ledge that forms a valve seat and defines an opening for egress of container contents therethrough, the lid comprising:

a gasket having a diameter that is larger than the opening, and having

a central panel that is made of a flexible elastomer, and

a flange that is engageable with the valve seat; and

a support that supports said central panel of said gasket, said support being sustainable by a surface of the container or container cap and, when so sustained, said support being capable of positioning said gasket against the valve seat of the cap,

wherein said central panel of said gasket is capable of flexing and stretching to allow a portion of said flange to be displaced from the valve seat when downward pressure is applied against a portion of said wall of said gasket.

2. The lid of claim 1, wherein said flexible elastomer has a durometer from about 30 to about 50 Shore A.

3. The lid of claim 1, wherein said support is rigid and when said downward pressure is applied against said gasket, said central panel of said gasket contacts said rigid support and a portion of said central panel of said gasket flexes downward from said rigid support.

4. The lid of claim 1, wherein said support is rigid and when said downward pressure is applied against said gasket, said central panel of said gasket contacts said rigid support and a portion of said central panel of said gasket stretches downward from said rigid support.

5. The lid of claim 1, wherein said support is rigid, and said support has a rigid bearing surface under said gasket, such that when said downward pressure is applied against said gasket, a portion of said central panel of said gasket contacts said bearing surface and stretches downward over said bearing surface.

Sub. A' > 6. A lip-openable lid for use in connection with a cap for a container, the cap having a skirt and an inwardly extending ledge that forms a valve seat and defines an opening, the lid comprising:

a gasket having

an upstanding lip-engageable wall, said wall having a diameter and height that allows it to fit upward through the opening and beyond the ledge,

a central panel radially inward of said wall, and comprised of a flexible elastomer; and

a flange extending outward from said wall and being engageable with said valve seat;

a rigid support that supports said central panel of said gasket, said support having

a base,

a central section connected to said base, and

liquid flow openings extending through said support, said base being sustainable by a surface of the cap or the container and, when so sustained, said support

being capable of positioning said upper surface of said flange of said gasket against said valve seat of said cap; and

means for securing said central panel of said gasket to said central section of said support, wherein said flexible elastomer flexes and stretches to allow a portion of said flange to be displaced from said valve seat when lip pressure is applied against an adjacent portion of said wall of said gasket.

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9. The lid of claim 1, wherein said lip-engageable wall is rigid.

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10. The lid of claim 1, wherein said lip-engageable wall is comprised of flexible elastomer.

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11. The lid of claim 1, wherein said lip-engageable wall is annular.

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12. The lid of claim 1, wherein said flange is comprised of flexible elastomer.

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13. The lid of claim 1, wherein said flexible elastomer of said flange has a durometer of from about 10 to about 70.

12. The lid of claim 6, wherein said flange includes material for rigidifying said flange.

Sub. a2> 13. The lid of claim 12, wherein said rigidifying material comprises a flexible elastomer having a durometer of from about 70 to about 90.

14. The lid of claim ~~12~~⁹, wherein said rigidifying material comprises an annular ring that is joined to said flange.

Sub. a3> 15. The lid of claim ~~10~~⁹, wherein said flange includes an upstanding peripheral annular sealing bead for improved sealing of said flange to the valve seat.

~~16~~⁹. The lid of claim ~~6~~¹, wherein said securing means comprises part of said gasket.

~~17~~¹⁰. The lid of claim ~~16~~⁹, wherein said securing means is comprised of flexible elastomer.

~~18~~¹¹. The lid of claim ~~17~~¹⁰, wherein said central panel has a central portion, and wherein said securing means that comprises part of said gasket is integral with and depends from said central portion.

~~19~~¹². The lid of claim ~~18~~¹¹, wherein said securing means that comprises part of said gasket includes a trunk that has means for engaging structure of said support.

~~20~~¹³. The lid of claim ~~19~~¹², wherein said securing means that comprises part of said support includes means, on said central section of said support, for engaging said engaging means of said gasket.

Sub. a4> 21. A lip-openable container, comprising:
a container body for containing liquids and
having an open top end;

a removable cap hermetically sealed to said container body about its said open top end, said cap having a depending skirt with a ledge that extends radially inward from said skirt, forms a valve seat and defines a central opening; and

a removable lip-openable lid for sealing said central opening of said cap, said lid comprising

a gasket having

an upstanding, lip-engageable wall, said wall being disposed within said central opening and extending upward beyond said ledge,

a flexible central panel radially inward of and communicating with said wall, said central panel being comprised of a flexible elastomer and having an integral flexible member that depends from said central panel, and

a peripheral flange extending outward from said wall and having an upper surface, and

a rigid support that supports said central panel of said gasket and maintains said flange in normal sealing engagement with said valve seat, said rigid support comprising

a base,

a central section, and

liquid flow openings extending through said support, said base being maintained in position by being in contact with a surface of said container or said cap, said central panel of said gasket and said central section of said support each having securing means that are engaged with each other and flexibly secure said gasket to said support,

said central panel of said gasket being capable of flexing and stretching downwardly in an area radially

inward of said wall of said gasket to allow a portion of said upper surface of said flange to be displaced from said valve seat when lip pressure is applied against an adjacent portion of said wall of said gasket.

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~~22~~. The container of claim ¹⁴~~21~~, wherein said central panel has a central portion, and wherein said flexible member that depends from said central portion comprises a trunk that includes said securing means of said gasket.

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~~23~~. The container of claim ²⁹~~22~~, wherein said central portion of said gasket has an undersurface and said trunk has a neck with an annular radially inwardly concavely curved surface extending between said undersurface and said securing means.

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~~24~~. The container of claim ³⁰~~23~~, wherein said securing means of said trunk includes retaining means disposed about said trunk for engaging structure of said support.

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~~25~~. The container of claim ³¹~~24~~, wherein said securing means of said central section of said support includes a hub with engaging means that engages said retaining means of said trunk and flexibly secures said gasket to said support.

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~~26~~. The container of claim ³²~~25~~, wherein said hub includes an annular convex arcuate bearing surface that engages said concavely curved surface of said trunk and facilitates flexing of said central panel downward and radially outward of said annular bead.

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~~27~~. The container of claim ¹⁴~~21~~, wherein said central section of said support has a rigid bearing surface positioned under said central panel of said gasket, such that when said downward pressure is applied against said wall, an adjacent portion of said central panel of said gasket contacts said bearing surface and flexes downward about a portion of said bearing surface to displace said flange from said valve seat.

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~~28~~. The container of claim ¹⁴~~21~~, wherein said central section of said support has a rigid bearing surface positioned under said central panel of said gasket, such that when said downward pressure is applied against said wall, an adjacent portion of said central panel of said gasket contacts said bearing surface and stretches downward from said bearing surface to displace said flange from said valve seat.

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~~29~~. The container of claim ¹⁴~~21~~, wherein, when said downward pressure is applied against said wall, said central panel of said gasket contacts said rigid support and is stretched downward over said rigid support to displace said flange from said valve seat.

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~~30~~. The container of claim ¹⁴~~21~~, wherein said securing means of said support includes upstanding rigid structure with openings therethrough and said securing means of said gasket includes portions of said central panel of said gasket that extend through said openings and engage said rigid structure.

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~~31~~. The container of claim ³²~~25~~, wherein said trunk of said gasket has a dead end bore extending upward into said trunk, and said lid includes a rigid plug having a stem that is seated inside said bore of said trunk, said stem having a diameter that is greater than the diameter of said bore, such that said stem compresses said trunk against said hub and improves the engagement of said retaining means of said gasket to said support.

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~~32~~. The container of claim ¹⁴~~21~~, wherein said wall of said gasket is rigid.

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~~33~~. The container of claim ¹⁴~~21~~, wherein said wall of said gasket is comprised of a flexible elastomer.

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~~34~~. The container of claim ¹⁴~~21~~, wherein said wall of said gasket is annular.

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~~35~~. The container of claim ²⁴~~32~~, wherein said rigid wall of said gasket is annular and has a lower portion with a radially inwardly extending lip to which said flexible central panel of said gasket is attached.

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~~36~~. The container of claim ²⁶~~32~~, wherein said rigid wall of said gasket is annular and has a lower portion with a radially outwardly extending lip, said lip having a layer of an elastomer thereon and forming a portion of said upper surface of said flange.

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~~37~~. The lid of claim ¹⁴~~21~~, wherein said flange is comprised of flexible elastomer.

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38. The lid of claim ²⁴37, wherein said flexible elastomer of said flange has a durometer of from about 10 to about 70.

39. The lid of claim ~~21~~¹⁹, wherein said flange includes material for rigidifying said flange.

Sub. a5 > 40. The lid of claim 39, wherein said rigidifying material comprises a flexible elastomer having a durometer of, from about 70 to about 90.

41. The lid of claim ~~39~~¹⁹, wherein said rigidifying material comprises an annular ring that is joined to said flange.

Sub. ab > 42. The lid of claim 41, wherein said annular ring is comprised of a flexible elastomer having a durometer of about 80.

43. The lid of claim 38, wherein said flange includes an upstanding peripheral annular sealing bead for improved sealing of said flange to the valve seat.